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Dr. R.K. Gupta
Chairman, CWC

Message

On the 5th of April 1945, Central Waterways, Irrigation and Navigation Commission (CWINC) was established on the advice of Shri B. R. Ambedkar which changed its form over time and became Central Water Commission (CWC). CWC has completed 77 years this month by achieving significant achievements in each and every task assigned to it over time. The Commission is entrusted with the general responsibilities of initiating, coordinating and furthering, in consultation with the State Governments concerned, schemes for control, conservation and utilization of water resources throughout the country, for purposes of Flood Control, Irrigation, Navigation, Drinking Water Supply and Water Power Development. It also undertakes the investigations, construction and execution of any such schemes as required. On this occasion, I extend my heartfelt best wishes to all of you.

I had the honour of welcoming visiting dignitaries, Prof. Asit K. Biswas, an Academician and Distinguished Visiting Professor, University of Glasgow, UK & Dr. Cecilia Tortajada, Professor in Practice, School of Interdisciplinary Studies, University of Glasgow, UK along with Shri A. B. Pandya, Secretary General, ICID. An interactive session on issues like water security, supply side management, demand side

management and latest thoughts of water resources management was held on 25.04.2022 with them. Further, Prof. Asit K. Biswas talked about the paper he published in Current Science on "Water security and India's development" during the session.

The first meeting of Steering Committee of Ken-Betwa Link Project (SC-KBLP) was held under the Chairmanship of Secretary, DoWR, RD&GR, MoJS & Chairman, Steering Committee of KBLP. Some important decisions were taken in the meeting like land acquisition, opening of Head Office of KBLPA at Bhopal and offices at Chhatarpur and Jhansi etc.

NWA, Pune organised Interactive Trainings on Environmental Flows Assessment: Part 1: Introduction on E-Flows Assessment in India and the EU during 05-07th April 2022 in which officers working in Central & State PSUs, State Govts., River Boards, Engineering Research Institutes, Pollution Control Boards, Research Organisations & Central Govt. agencies involved in the environmental monitoring of Water Resources Development and Management participated. Shri Kushvinder Vohra, Member (WP&P), CWC delivered inaugural address for the training programme. He informed participants that the "Guidance Document for E-flows Assessment and Implementation in India" and E-flows reports on Ramganga river and Bharathapuzha river have been prepared using different methodologies under IEWP.

R.K. Gupta



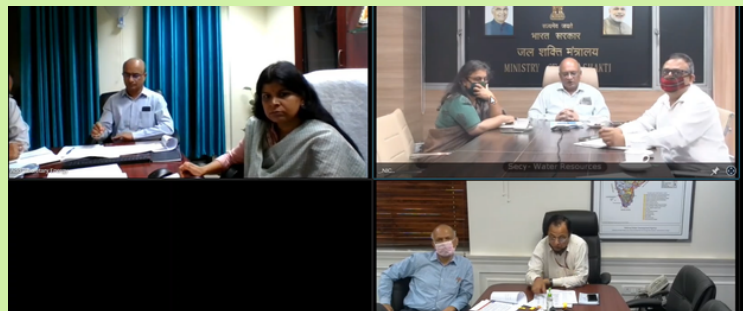
Meeting to review the implementation of Lakhwar Multipurpose Project, Uttarakhand

Lakhwar Multipurpose Project was originally part of combined Lakhwar Vyasi Multipurpose Project which was approved by Planning Commission in 1976. Subsequently, in July 2010, Govt. of Uttarakhand submitted separate DPR of Lakhwar Multipurpose Project for techno-economic appraisal in Central Water Commission and DPR of Vyasi Hydro Electric Project (HEP) in Central Electricity Authority. The Lakhwar Multipurpose Project is planned to be constructed on the river Yamuna in Uttarakhand State. The project envisages generation of 300 MW of hydropower via construction of 192 m high dam (Dam top RL 800 M, FRL 796 M) across river Yamuna near Lakhwar village and store 580 MCM (0.47 MAF) of water. The latest cost estimate of project is Rs. 5747.17 Cr. (PL July 2018) of which cost of irrigation component as Rs. 4673.01 Cr. (81.30%) and Cost of power component as Rs.1074.16 Cr. (18.70%).

The project has been included in the Government of India approved scheme of National Project in Feb'2008. The scheme was launched during XI plan with a view to expedite completion of identified National Projects for the benefit of people. National Projects are provided financial assistance for cost of irrigation and drinking component in the form of Central grant.

A meeting was held on 11.04.2022 to review the implementation of the Lakhwar Multipurpose Project under the chairmanship of Shri Pankaj Kumar, Secretary, DoWR, RD&GR, Ministry of Jal Shakti, Govt. of India. Officials from DoWR, RD&GR, CWC, UJVNL, Dehradun had attended the meeting.

In the meeting, detailed deliberations were held regarding land acquisition and R&R work, tender



process, early release of the first installment and project monitoring including quality control. State Government officials raised concerns regarding establishment cost provisioned as 9% of work excluding the cost of land for the project. They desired that establishment cost be either borne by the Government of India, or by the other basin States for whose benefit the project is being implemented. Commissioner (SPR), DoWR, RD&GR clarified that the guidelines of National Projects do not allow the Government of India to bear the establishment cost.

Review Meeting regarding Issues/Projects related to Water Resources of Rajasthan

Hon'ble Minister of Jal Shakti took a review meeting with a team of officers from the Ministry, CWC and CGWB on the water-related issues of Rajasthan in the Regional Conference on Jal Jeevan Mission and Swachh Bharat Abhiyan on 08.04.2022 at Jaipur. The issues related to Eastern Rajasthan Canal Project (ERCP) were discussed in detail apart from other appraisal issues. Various senior officials from CWC present in the review meeting provided their inputs to the Hon'ble Minister.

The 5th Meeting of the Committee for "Study on the Issue of Flood and Siltation in River Ganga and its Tributaries due to Farakka Barrage in the State of Bihar"

The Fifth meeting of the Committee for "Study on the issue of Flood and Siltation in River Ganga and its Tributaries due to Farakka Barrage in the state of Bihar" was held under the chairmanship of Dr. R.K. Gupta Chairman, CWC on 19.04.2022 in which representatives from Government of Bihar & NIH, Patna also participated. In the meeting, Director, Hydrology (Central) appraised the developments in the study since the 4th meeting held on 21.10.2021. He informed that the Data Compilation Report (2nd Deliverable) was accepted on 28th January, 2022 and the cross section survey (100 cross section on river Ganga) has been completed by the survey team of the consultant in the study area by the end of January, 2022.

In the meeting, the consultant gave a presentation on the model setup and preliminary findings of the study to which the committee members agreed to. The consultant conveyed that the COVID-19 pandemic led to certain delay in completion of the cross section survey which has led to delay in the later deliverables of the study. In this regard, the consultant requested extension for the project completion date in view of unavoidable delays due to COVID restrictions. The committee agreed to therequest in light of the justification for the delay, and recommended extension of the project completion date to 31.07.2022 without any cost implications to which the consultant agreed to.



93rd Meeting of Narmada Control Authority

The 93rd Meeting of Narmada Control Authority was held on 12.04.2022 in New Delhi under the chairmanship of Shri Pankaj Kumar, Chairman, Narmada Control Authority & Secretary, DoWR, RD&GR, Ministry of Jal Shakti.

The meeting was participated by the members & invitees of the Narmada Control Authority (The officers from GoI & beneficiary states).

The issues discussed during the meeting are listed below:

- Non-operationalization of 1200 MW Sardar Sarovar Pump Storage Project (PSP) in pumping mode.

- Excess Water drawn by GoG during the year 2017-18.
- Repairing Works in Sardar Sarovar Dam.
- Single piece Stop log with individual Rope Drum Hoist for Operation of River Bed Power House (RBPH) and Canal Head Power House (CHPH).
- Approval for Revised Organized Structure of NCA Secretariat along with RR.
- Field Vehicles required for Regional Offices of NCA at Delhi/Bhopal/Vadodara.
- Supplementary agenda - Compassionate appointment for immediate dependent(s) of NCA employees who died due to COVID-19 infections.

First Meeting of Steering Committee of Ken Betwa Link Project

Ken-Betwa Link Project (KBLP), a National Project under National Perspective Plan (NPP), is a joint project of Govt. of India and State Govt. of Madhya Pradesh and Uttar Pradesh. The respective Governments signed a tripartite MoA on 22.03.2021, based on the provisions of which a Steering Committee was constituted vide Ministry of Jal Shakti's Gazette Notification dated 09.02.2022.

The First Meeting of Steering Committee of Ken - Betwa Link Project (SC-KBLP) was held under the Chairmanship of Shri Pankaj Kumar, Secretary, DoWR, RD&GR, Ministry of Jal Shakti & Chairman, Steering Committee of KBLP on 07.04.2022. The gist of the important decisions taken in the meeting is:

- The Government of Madhya Pradesh may actively pursue the land acquisition in respect of 21 villages and initiate the process of transfer of non-forest Govt. land identified for Compensatory Afforestation (CA) for PTR/coming under submergence in 21 villages immediately.
- SC-KBLP proposed the opening of the Head Office of KBLPA at Bhopal and offices at Chhatarpur and Jhansi.



- The recruitment rules for CEO/ACEOs for KBLPA may be modified and initiate the process for the engagement of CEO/ACEOs/Director (F) at the earliest.
- Finalise the LMP report by 30.04.2022 and the recommendation of the same along with implementation mechanism shall be placed in next meeting of Steering Committee.
- Finalise ToRs and initiate the process for the engagement of Project Management Consultant (PMC) at the earliest.

Meeting regarding Danish proposal for Cooperation on the Centre of Excellence on Smart Water Resources Management in Pune and the Smart Laboratory on Clean River Water in Varanasi

During the visit of Prime Minister of Denmark to India in Oct 2021, 02 Action Points emerged from the meeting between Prime Ministers of both the Countries viz. (i) Establish a Centre of Excellence for Smart Water Resource Management & (ii) Establish a lab for clean rivers in Varanasi on the lines of Smart City Lab in Panaji. Series of meetings & discussions have been held between DoWR, RD&GR, CWC and Denmark Side during Dec 2021 to April 2022 in order to develop a common approach for preparing the 2 proposals.

In this regard, Shri Kushvinder Vohra, Member(Water Planning & Projects), CWC & Ex-Officio Additional Secretary to Govt. of India, convened a meeting with concerned officers from CWC on 25.04.2022 to review the progress of preparation of proposals namely (i) Setting up a Center of Excellence for Smart Water Resources Management (CoESWaRM) at National Water Academy, Pune; and, (ii) Establishing a Smart Laboratory for Clean River Water (SLCRW) at Varanasi.

Member (WP&P) instructed to revise the proposals in line with the comments received from Danish side on the draft proposals.

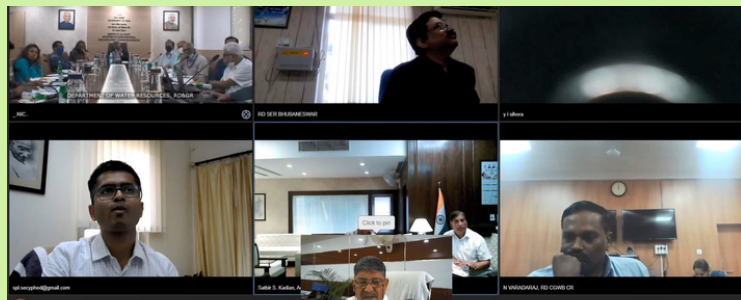


Meeting to discuss Agenda Points related to Ground Water Usage, Micro Irrigation, Crop Diversification and Water Use Efficiency in the Agriculture Sector

A meeting was held under the Chairmanship of Shri Pankaj Kumar, Secretary (WR, RD&GR) on 13.04.2022 (in hybrid mode) to hold discussions with the Central & State Government Officers regarding the ground water usage, micro irrigation, crop diversification and water use efficiency in the agriculture sector in the Country. Senior officers from DoWR, RD&GR including Shri R. K. Gupta, Chairman, CWC participated in the meeting along with representatives from the concerned Departments of Haryana, Punjab, Gujarat, Rajasthan, Tamilnadu and Maharashtra.

Shri Padma Dorje Gyamba, Chief Engineer (POMIO), CWC made a presentation during the meeting on the subject 'Water Use Efficiency in Agriculture Sector'. It was informed that the Water Use Efficiency (WUE) of 35 MMI projects studied by CWC during Xth and XIth FYP has been assessed as 36% only. Further, the presentation highlighted various initiatives taken by the Department for improving WUE in agriculture sector viz. 'Sahi Fasal' campaign by NWM, ERM Schemes, MMI projects involving Canal Automation & Piped Irrigation Network under PMKSY-AIBP, ADB assisted Support for Irrigation Modernization Program (SIMP), etc.

The States presented the work being carried out by them and proposed plan in the direction of improving Water Use Efficiency. The State of Rajasthan



informed that 2 lakh ha of agriculture area in the State has been brought under micro-irrigation leading to 20% water savings and another 4.55 lakh ha is under development. Haryana mentioned the 'Mera Pani Meri Virasat' scheme taken up by the State Government for promoting crop diversification. Some of the other initiatives mentioned by the States for improving WUE include 'Paani Bachao Paisa Kamao' scheme to address groundwater-electricity-food nexus in Punjab, 'Sujalam Sufalam Jal Sanchay Yojna' for water conservation in Gujarat and publication of annual reports on Water Audit and Benchmarking in Maharashtra.

Secretary (WR, RD&GR) desired that the States should analyse the current water scenario and present WUE levels in their States and come out with strategy/plan for improving WUE. Further, it was desired to incorporate the concept of WUE as integral component to all irrigation projects.

Interactive Session with Visiting Dignitaries

An interactive session with visiting dignitaries, Prof. Asit K. Biswas, an Academician and Distinguished Visiting Professor, University of Glasgow, UK & Dr. Cecilia Tortajada, Professor in Practice, School of Interdisciplinary Studies, University of Glasgow, UK along with Shri A. B. Pandya, Secretary-General, ICID was held on 25.04.2022 in CWC-HQ.

The session was hosted by the Chairman, CWC, Member (D&R) and other CWC Officers along with the officers of the Central Ground Water Board. The following issues were discussed during the session:

- Quantifying water security for setting up of the goals in various sectors.
- Issues of one side focus on either supply-side



management or demand-side management.

- Latest thoughts on water resources management and development in the world.

Further, Prof. Asit K. Biswas also talked about the paper published by him on "Water security and India's development" during the session.

Introductory Interaction with Experts on National Committee on Dam Safety

A virtual meeting was called by the Chairman, CWC on 29.04.2022 to discuss the modalities to implement the provisions of the Dam Safety Act, 2021 through the National Committee on Dam Safety (NCDS). Accordingly, the technical experts Prof. CVR Murty, PS Rao Institute Chair Professor, Department of Civil Engineering, IIT Madras and Shri D. K. Sharma, Chairman, Himachal Pradesh Electricity Regulatory Commission presented their views on the various topics related to dam safety aspects which need to be addressed on priority. The Chairman, CWC, Member(D&R), CWC and Chief Engineer, DSO, CWC also suggested ideas on implementing the provisions of the Dam Safety Act, 2021 throughout the country.



Workshop on Extended Hydrological Prediction (Multi-week forecast) Project under NHP

Extended Hydrological Prediction (EHP) is the prediction of hydrological variables, most commonly the monthly/seasonal stream flow in a catchment at the time scale of months/seasons in future. The skilful and reliable forecasts of stream flow may prove valuable for planning and managing water use through reservoir operations, mitigating drought, etc. and help water managers and users with long lead time decisions, leading to greater water use efficiency and better risk management. The Extended Hydrological Prediction (Multi-Week Forecast) project for Yamuna, Narmada and Cauvery basins is being carried out under National Hydrology Project (NHP). The main objective of the project is to develop tools for the multi-week forecast of the volume of water at the selected locations in the above-mentioned basins. Multi-week forecasts will cover a period of up to 4 weeks from the date of issuing forecasts.

A workshop on the Extended Hydrological Prediction (EHP) project was held on 21st -22nd April 2022 in New Delhi. The workshop was inaugurated by Shri R. K. Gupta, Chairman, CWC being the Chief Guest and Shri Kushvinder Vohra, Member(WP&P), CWC being the Guest of Honor. Dr. M. K. Sinha, Chief Engineer, CWC welcomed the Chief Guest, the Guest of Honor and all the distinguished delegates.

The inaugural session was followed by Technical



sessions. Technical session on Day 1 included presentation on EHP Project description, Data development, Lean Season Model development and introduction to Monsoon models by team/experts from Research Triangle Institute (RTI) and National Center for Atmospheric Research (NCAR), USA. On 22.05.2022, technical sessions started with opening remarks followed by presentation on Multi-Criteria Decision Analysis (MCDA) process, Artificial Intelligence model, Lumped conceptual model, WRF-hydro model and Statistical model. Each presentation was followed by queries and interactive discussions with the participants. The participants for the workshop included delegates from CWC, NCA, IMD, TAMC (NHP), NPMU (NHP), NCMRWF, NRSC, NIH, World Bank and Water Resources Department respectively from Uttar Pradesh, Madhya Pradesh, Rajasthan, NCT of Delhi, Tamil Nadu, Karnataka and Gujarat. From the consultant team, experts from RTI and NCAR, USA participated in the Workshop.

Review meeting on overall working of CWC and issues related to Odisha taken by Hon'ble MoS (JS&TA)

Shri Bishweswar Tudu, Union Minister of State for Jal Shakti & Tribal Affairs visited CWC-HQ, New Delhi to review overall working of CWC and discuss

issues related to Odisha on 27.04.2022. A presentation was made before the Hon'ble MoS. Hon'ble MoS lauded the key role and main functions of CWC.

Review Meeting for Polavaram Irrigation Project

A meeting to discuss the progress on assessment of the balance cost and benefits of the Polavaram Irrigation Project (PIP) at +41.15 m was taken by Shri Kushvinder Vohra, Member(WP&P), CWC and ex-officio Additional Secretary to Govt. of India through video conferencing on 05.04.2022. The meeting was attended by officers of Polavaram Project Authority (PPA), WRD (Govt. of Andhra Pradesh) and Central Water Commission.

In the meeting, discussions were held on balance works of LMC, RMC, Connectives of various command areas with LMC & RMC, balance cost requirement and assessment of benefits at +41.15 m level. Member (WP&P), CWC directed WRD, GoAP officers to submit requisite details and depute a suitable official in CWC for early assessment of balance cost and benefits at +41.15 m by specialized directorates



of CWC.

Further, Shri Sriram Vedire, Advisor, DoWR, RD&GR, Ministry of Jal Shakti also took a meeting for discussion on partial benefits and balance cost especially w.r.t. to the cost of the scoured portion of d/scoffer dam, Gap I and Gap II of ECRF dam through video conferencing on 29.04.2022. The meeting was attended by officers of the Polavaram Project Authority (PPA) and CWC.

The 2nd Meeting of the Working Group for Reviewing Calculation of BC Ratio and Procedure for Revised Cost Estimation for Major and Medium Irrigation, Flood Control and Multi-Purpose Projects

A Working Group under the chairmanship of Shri Kushvinder Vohra, Member (WP&P), CWC was constituted with the approval of Secretary, DoWR, RD&GR in July 2021 consisting of members from different Ministries.

The Terms of Reference for the Working Group are:

a) Benefit Cost Ratio (BC Ratio) :

1. To review the current methods of Benefit Cost Ratio being used for irrigation, flood control and multi-purpose projects, and come out with actionable suggestions to make them more realistic and rational.

2. The Working Group may also suggest methods for a comprehensive inclusion of indirect benefits that may accrue to the project, such as establishment of processing industries, expansion of consumer industries, retail trade, transport, tourism, communications, etc.

b) Simplification of cost revision procedure for irrigation, flood control and multipurpose projects, not involving change of scope:

To recommend an appropriate mechanism for the automatic revision of cost, for major and medium

irrigation, flood control and multipurpose projects, provided the scope and design aspects of the project remain same.

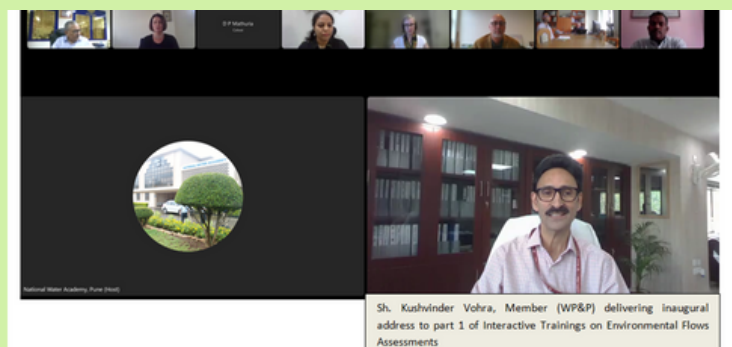
- The 1st meeting of the said Working Group was held on 12.08.2021.
- The 2nd meeting of the Working Group was held on 05.04.2022.
- During the meeting, a brief presentation was made by Chief Engineer, PAO & Member Secretary of the Working Group. Member Secretary emphasized that the current method being adopted for BC Ratio be continued with some rational modification. Further, Chairman of the Working Group invited comments and suggestions from Members of the Working Group. After discussions and deliberations, it was concluded by Chairman of the Working Group that based on the outcomes of these Meetings and further discussions; a Draft Report will soon be prepared and circulated among all Members for further inputs and suggestions. Subsequently the finalized Report of the Working Group will be submitted to SPR Wing of DoWR, RD & GR, Ministry of Jal Shakti for acceptance.

Inaugural Address during the e-Flows Training Programme organized by IEWP

The inaugural address for the training "Introduction to E-Flows Assessment in India and the EU" scheduled during 05-07th April 2022 in online mode was delivered by Shri Kushvinder Vohra, Member(WP&P), CWC and ex-officio Additional Secretary to Govt. of India.

He gave a brief background of activities carried out under the 1st phase of the Indo-European Water Partnership (IEWP) in nine identified priority areas covering different aspects of water management such as River Basin Management, e-flow assessment, groundwater use and others.

He informed participants that the "guidance document for e-flows assessment and implementation in India" and e-flows reports on Ramganga river and Bharathapuzha river have been prepared using different methodologies under IEWP. He further highlighted the works envisaged under the



2nd phase of IEWP which started on 01.11.2020. Member (WP&P) congratulated all the institutions/ Departments involved in the organization of the training and expressed that the training session will be highly useful towards enhancing the skills, outlook and knowledge of all the participating young officers and professionals in this important area of e-flow, which is gaining importance over time due to pressures being felt by aquatic ecology as a result of various anthropogenic and geogenic activities.

Meeting regarding Mulla Periyar Dam

A meeting under the chairmanship of Secretary, DoWR, RD&GR along with the officials of DoWR, RD&GR and CWC was held on 04.04.2022. In the meeting, the various issues regarding the safety

aspects of Mulla Periyar Dam (MPD) deliberated in the Hon'ble Supreme Court under Writ Petition(s) (Civil) No(s). 880/2020 and other connected matters were discussed.



Review of Progress in Projects Monitored Through PRAGATI Framework

Following two Projects under the Special Package for Maharashtra were proposed to be discussed in the last meeting of the PRAGATI.

Sulwade-Jamphal-Kanoli Lift Irrigation Scheme

The project envisages the construction of an intake structure at the lift point, five pump houses for six stages of lifting, 43.10 km long rising main, 37.35 km long gravity main, 51.50 km long Sub-line & DISNET to irrigate the Culturable Command Area (CCA) of 50879 ha. The gross storage & live storage of the project is 261.62 MCM & 213.83 MCM respectively.

The project envisages the construction of 4 earthen dams & restoration of 9 existing MI Tanks. The project was included under the Scheme "Special package for completion of irrigation projects to address agrarian distress in Vidharbha and Marathwada and other chronically drought-prone areas of rest of Maharashtra" with a balance estimated cost of ₹ 2071.54 crore for works (as on

Urmodi Irrigation Project

Urmodi Irrigation Project envisages the construction of two dams, Urmodi Dam across Urmodi river near Parali village and Ambale Dam across Karhira local Nala near Ambale village, canals and lift irrigation. The project was included in Special Package in the year 2017-18 with an irrigation potential of 25503 ha to be created in specifically in drought-prone areas of Khatav and Man Taluka in Satara district. Project components included in the Special package are:-

- Mechanical Work includes Installation of 5 Pumps & Balance Electrical Work which contains an additional load 16 MVA to 34 MVA;
- The balance works of CTRB, Outlets & Lining of Khatav Canal
- The balance works of Man Canal;



RISING MAIN WORK IN PROGRESS

01.04.2018) for Central Assistance. The target date of completion is June 2023. The total Central Assistance released to Sulwade-Jamphal-Kanoli Lift Irrigation Scheme under Special Package Scheme for Maharashtra is ₹204.75 crore and expenditure incurred on works after 2017-18 till March 2022 is ₹ 819.20 crore.



- Distribution network of Khatav & Man Canal
- The total Central Assistance released to Urmodi Irrigation Scheme under Special Package Scheme for Maharashtra is ₹ 38.25 crore and expenditure incurred on works after 2017-18 till March 2022 is ₹ 168.93 crore.

Meetings regarding Polavaram Irrigation Project

A meeting was held on 01.04.2022 to discuss the action taken on the decisions of the 20th meeting of the Dam Design Review Panel (DDRP) regarding the construction of Earthen-cum-Rock Fill (ECRF) Dam in Gap-II of Polavaram Irrigation Project under the chairmanship of Shri Sriram Vedire, Advisor to Hon'ble Minister of Jal Shakti in New Delhi. The meeting was attended by members of DDRP, officers of PPA, CWC, CSMRS, Water Resources Department (WRD), Govt. of Andhra Pradesh, executing agency (MEIL) and their consultants. The discussion mainly focused on the treatment of scoured foundation. Several presentations were made on the aspects related to the Diaphragm wall at Gap-II, Dredging and Reclamation, Dewatering and Ground Improvement by vibro-compaction.

A follow-up meeting was held to deliberate on design issues of the Polavaram Irrigation Project under the chairmanship of the CEO, Polavaram Project

Authority at CWC, New Delhi on 13.04.2022. The meeting was attended by officials/representatives from CWC, CSMRS, PPA, DDRP, WRD, MEIL (executing agency), M/s Keller & M/s Bauer. The discussions during the meeting were mainly focused on the treatment of the foundation of the ECRF Dam at Gap-I & Gap-II after scouring.

Further, a meeting of members of DDRP (including co-opted members), officials of CWC, PPA and CSMRS was held on 24.04.2022 through video-conferencing to discuss the issue of construction of the ECRF dam of Polavaram Irrigation Project. The discussions were mainly held regarding the options of treatment of scoured foundation. The proposal submitted by WRD and modifications suggested by CWC was also discussed in-depth. Extensive deliberations took place on the aspect of sand-dredging for reclamation and its level as well as dewatering.



Keynote presentation during Technical Session-I on Development of New Water Storage Infrastructure for Multiple Purposes

Shri J. Chandrashekar Iyer, Member(D&R), CWC delivered a Keynote Presentation on 07.04.2022 during Technical Session-I of the International Conference on Hydropower and Dams Development for Water and Energy Security-under Changing climate. This conference was organised jointly by INCOLD, CBIP and THDC during 7-9th April 2022 at Rishikesh. He addressed the gathering regarding the Development of new water storage infrastructure for multiple purposes.



Training Activity during April-2022

Sr. No.	Name of Training Programme	Dates	No. of Trainee per course	Delivery Mode	Category
1	Series 4: "Water Insight/ जल अंतर्दृष्टि – Talk by Eminent Water Experts": Dealing with my experiences in Water Sector to face future Water Challenges of India"	06.04.2022	50	DL	Technical
2	Interactive Trainings on Environmental Flows Assessments: Part 1: Introduction on E-Flows Assessment in India and the EU	05-07th April 2022	169	DL	Technical
3	Series 5: "Water Insight/ जल अंतर्दृष्टि – Talk by Eminent Water Experts": Some Important Issues in the Planning and Development of Water Resources Projects	13.04.2022	50	DL	Technical
4	MCTP Level 2 - for STS (one Week at NWA+ One Week at IISc Bengaluru + One Week at IIM Bangalore)	11-29th April 2022	25	Residential	Cadre
5	MCTP Level 3 - for JAG (one Week at IIM Calcutta+One Week at NWA)	18-29th April 2022	19	Residential	Cadre
6	MCTP Level 4 - for SAG (one Week at IIM Ahmedabad)	18th -22nd April 2022	10	Residential	Cadre
7	Training on Pension Related Issues	20.04.2022	56	DL	NT
8	Series 6: "Water Insight/ जल अंतर्दृष्टि – Talk by Eminent Water Experts": Sharing of Experience	20.04.2022	107	DL	Technical
9	Series 7: "Water Insight/जल अंतर्दृष्टि – Talk by Eminent Water Experts": Various facets of CWES as experienced by me"	27.04.2022	52	DL	Technical

Water Sector-News

- Dam Safety Act can end disputes, says SC (The Hindu, 01.04.2022)
- India-Netherlands ties : Climate, water initiatives likely to take centre stage (The Indian Express, 04.04.2022)
- Centre constitutes Dam Safety Authority with temporary officials (The Hindu, 07.04.2022)
- JJM to supply water to rural areas by 2024 (The Hindu, 09.04.2022)
- India to achieve tap water to every household by 2024 (The Statesman, 13.04.2022)
- India to try new groundwater recharge method to solve water problem (Mint, 19.04.2022)
- India's water : Scarcity amid plenty (Hindustan Times, 23.04.2022)
- Modi calls for all-round efforts towards water conservation (The Pioneer, 25.04.2022)
- 140 Reservoirs' Storage 30% More than 10-year Average (The Economic Times, 26.04.2022)
- Clean water to every household on agenda (The Tribune, 30.04.2022)

DRIP

Inspection visit of Joshiyara Barrage, Maneri Dam & Virbhadra Barrage, UJVNL

Inspection visit was carried out during 6-7th April 2022, to inspect the rehabilitation activities being carried out under DRIP Phase II at Joshiyara Barrage, Maneri Dam & Virbhadra Barrage. The Inspection visit was undertaken by the CWC officials along with officials from UJVNL, Independent Experts and Site Engineers. The ongoing works include Construction of cut-off drain/Seepage drain and curtain grouting to prevent leakage of water from right bank of Joshiyara reservoir area, Work of "Treatment of cracks in piers & other associated structure of Joshiyara Barrage structure" and Construction of Energy Dissipation arrangement & Appurtenant works at downstream of Maneri dam, Protection and Refurbishment work from spillway glacis to end sill of gate at Virbhadra Barrage. Suggestions were given by the CPMU team



Arrangement of Drilling Rig which was used for drilling of curtain grout holes is seen in operation.

on quality control and various bottlenecks of the project.

Inspection visit of Bisalpur Dam, Rajasthan

The Environment and Social Regional Safeguard team of World Bank (HQ) along with World Bank India team and CPMU officials conducted a site visit of Bisalpur dam, Rajasthan during 18-19th April 2022, to see the on-ground implementation of E&S safeguards under DRIP-2. The team had detailed interaction with officials of SPMU Rajasthan as well as dam officials regarding the various E&S protocols in place. The visits included the labour camps, rehabilitation sites at Bisalpur. The team also interacted with contractors, labourers and local public. The recommendations of this visit would help in strengthening on-site E&S activities under DRIP-2.



Interaction with officials of SPMU Rajasthan regarding the various E&S protocols

Meeting regarding DRIP Phase- II and Phase- III related issues

A meeting was taken by Member (D&R), CWC on 26.04.2022 to discuss the issues related with the delays in finalization of the process of procurement of Consultant for DRIP Ph II & III. The meeting was attended by Project Director, DRIP Ph II & III, Directors and officers of CPMU. In the meeting, Director (DSR), CWC explained the process of hiring of consultant under DRIP Ph II & III. Issues related to negotiation with AECOM were also discussed during the meeting.



Financial Progress of Schemes as on 30.05.2022

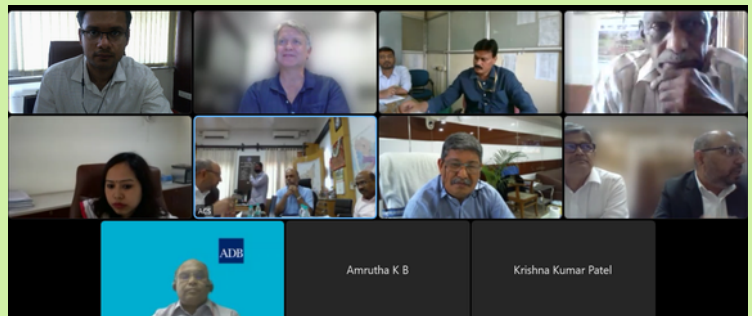
(Amount rounded-off in ₹ Crore & Specific to CWC's component)

Sl. No.	Scheme/Component Name	BE 2020-21	Expenditure	Expenditure (in %)
1.	Development of Water Resources information System (DWRIS)	185.00	1.526	0.82%
2.	Investigation of Water Resources Development Schemes (IWRD)	08.000	0.535	6.68%
3.	Flood Management & Border Areas Programme (FMBAP)	23.203	0.969	4.18%
4.	Direction & Administration(D&A)-Major Works and OE(SAP)	11.15	0.000	0.000%
5.	National Hydrology Project	33.700	0.026	0.076%
6.	Dam Rehabilitation and Improvement Project	100.00	0.030	0.03%



Support for Irrigation Modernization Program

Under the ongoing Asian Development Bank’s (ADB’s) Mission regarding Support for Irrigation Modernization Program (SIMP), meetings were held with Additional Chief Secretary (WRD), Govt. of Karnataka and Additional Chief Secretary (I&WRD), Govt. of Haryana on 01.04.2022 and 12.04.2022 respectively. Concerned officers from POMIO (CWC), ADB, SIMP Ph-1 consultant’s team and senior officers from the State’s WRD participated in the meetings. Discussions were held regarding the Vanivilasa Sagara project (Karnataka) and Loharu Canal project (Haryana) which have been identified to be taken up for modernization under SIMP. Officials from both the States conveyed keen interest in working with ADB and CWC for the modernization of irrigation schemes in the States.



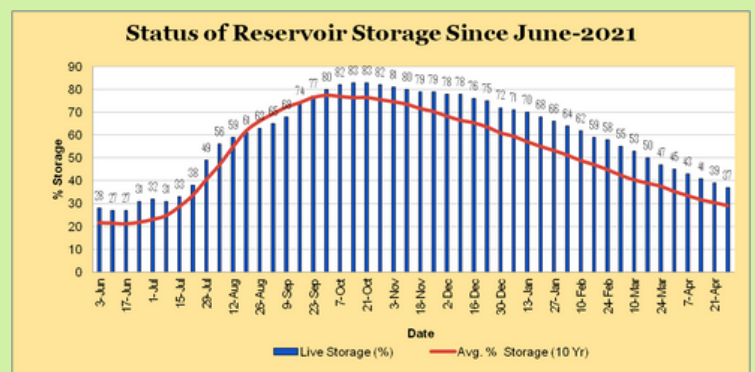
As part of the ongoing ADB’s Mission regarding

Reservoir Monitoring

CWC is monitoring live storage status of 140 reservoirs of the country on weekly basis and is issuing weekly bulletin on every Thursday. Out of these reservoirs, 45 reservoirs have hydropower benefit with installed capacity of more than 60 MW. The total live storage capacity of these 140 reservoirs is 175.957 BCM which is about 68.25% of the live storage capacity of 257.812 BCM which is estimated to have been created in the country.

As per reservoir storage bulletin dated 28.04.2022, the total live storage available in these reservoirs is 65.315 BCM which is 37% of total live storage capacity of these reservoirs. However, last year the total live storage available in these reservoirs for the corresponding period was 60.219 BCM and the

Support for Irrigation Modernization Program (SIMP), a team comprising of Irrigation Modernization Experts from SIMP Ph-I and officer from CWC’s Regional office at Jaipur visited the Indira Gandhi Nahar Pariyojana St-II (IGNP-II) and Chambal projects in Rajasthan during 10-15th April 2022. The two projects have been proposed by the State government of Rajasthan to be taken up for modernization under SIMP.



average of last 10 years live storage was 51.181 BCM. Thus, the live storage available in 140 reservoirs as per the bulletin dated 28.04.2022 is 108% of the live storage of corresponding period of last year and 128% of storage of average of last ten years.

Data Corner- No. of dams to be rehabilitated under DRIP Phase II and Phase III

Sl. No.	State / Agency	No. of dams to be rehabilitated	Sl. No.	State / Agency	No. of dams to be rehabilitated
1.	Andhra Pradesh	31	11.	Meghalaya	6
2.	Chhattisgarh	5	12.	Odisha	36
3.	Goa	2	13.	Punjab	12
4.	Gujarat	6	14.	Rajasthan	189
5.	Jharkhand	35	15.	Tamil Nadu	59
6.	Karnataka	41	16.	Telangana	29
7.	Kerala	28	17.	Uttar Pradesh	39
8.	Madhya Pradesh	27	18.	Uttarakhand	6
9.	Maharashtra	167	19.	West Bengal	9
10.	Manipur	2	20.	BBMB	2



Gallery/Azadi Ka Amrut Mahotsav



Shri J. Harsha, Director, CWC and Shri Prathap Shelke, Deputy Director, CWC Visited the NLBC-ERM project during 11-12th April 2022.



दिनांक 30.04.2022 को चंडीगढ़ में संसदीय राजभाषा समिति ने मुख्य अभियंता कार्यालय, सिंधु बेसिन संगठन, केंद्रीय जल आयोग, चंडीगढ़ के साथ निरीक्षण बैठक.



प्रबोधन मध्य संगठन, केन्द्रीय जल आयोग, नागपुर में नवनिर्मित सभा कक्ष का उदघाटन श्री धीरेन्द्र कुमारतिवारी, मुख्य अभियन्ता महोदय के कर कमलों द्वारा प्रबोधन मध्य संगठन नागपुर के सभी अधिकारी एवं कर्मचारी की उपस्थिति में दिनांक 22.04.2022 को संपन्न हुआ



India Bangladesh 77th Meeting of Joint Committee on Ganga Water Sharing Treaty at Kolkata

History- RAJOLIBUNDA DIVERSION SCHEME

The Rajolibunda Diversion Scheme is an interstate Project consisting of an Anicut built across the Tungabhadra River for diverting 24 cum per sec (850 cusecs) of water into the 143 km long Left Flank Canal, to benefit Manvi Taluq of Raichur District in Karnataka State, Gadwal and Alampur Taluqs in Mahabubnagar District of Telangana and 4 villages of Kurnool district of Andhra Pradesh. This work was started by the erstwhile Government of Hyderabad in 1944 at an estimated cost of ₹162.86 lakhs and was included in the First Five Year Plan of the Hyderabad State. After the reorganization of States in 1956, the Anicut, Headworks and 42.50 km (26.42 ml) length of the Main Canal have been allotted to the erstwhile Mysore State, whereas the portion of the Main Canal beyond that for a length of 100 km (62 ml) coming within the territory of combined states of Telangana & Andhra Pradesh, duly making available a discharge of 21.8 cum per sec for utilization, was allotted to the Telangana. The Canal is fully lined from its off take point for a length of 109 km (68 ml) and in this long reach of the Main Canal besides lining, various other interesting structures like combined escapes and silt traps, combined Standing Wave Flume-regulator and cart bridges, R.C.C. sloping slab buttress type aqueducts and the dike have been built. Further, in the distribution system consisting of distributaries, sub-distributaries and field channels numerous hume pipe drops, hume pipe outlets and

small drops on field channels of a novel design have been built to enable irrigation water being delivered up to a 10.1 ha (25 ac) periphery for the abi paddy ayacut and to each individual field for the irrigated dry rabi area.

Location

The Anicut has been built across the Tungabhadra River at about 129 km below the Tungabhadra Dam. The left flank of the Anicut together with the Headworks lie in the limits of Rajolibunda Village, Manvi Taluq, Raichur District, Karnataka State and is about 48 km distant from Raichur District headquarters, connected by metaled road. The right flank of the Anicut is in the limits of Kandukur Village, Adoni Taluq, Kurnool District of Andhra Pradesh.

The Scheme

The Scheme consists of the Construction of a 820 m, long masonry Anicut across the Tungabhadra River with adequate scouring sluices, flood banks and Headworks on the left flank and river sluices and flood bank on the right flank, in order to raise the level of the flow in the river and permit its diversion through the left flank main canal. The distribution system consists of the construction of a 143 km long main canal taking off from the left flank of the Anicut to make available the river water for irrigating an area of about 2,833 ha (7,000 ac) in



the Manvi Taluq of Raichur District, Karnataka State and 35,207 ha (87,000 ac) in six villages of Gadwal and sixty-six villages of Alampur Taluq in Mahboobnagar District, Telangana and four villages of Kurnool district of Andhra Pradesh. The scheme was conceived as a purely protecting work designed to banish the constant threat of famine from the arid and drought stricken taluqs of Manvi, Gadwal and Alampur and thereby to pave the way for the prosperity and development of this backward area.

Combined Escape and Silt Trap Structures

The first escape-cum-silt trap in this Canal comes at 43 km and the Second at 66 km. The first one is meant for disposing all the regulation waste coming down from the Headworks while the second one is to protect the heavy bed filling in the approaches of the aqueducts about midway of the total run of the canal, across the minor Uppal stream. A similar type of a combined structure occurs in the approach to the aqueduct on the Rampur stream.

A combined escape and drop culvert is constructed at 84 km to protect the canal embankment in the approaches of the aqueduct over the Julikal stream. A similar structure with a silt trap incorporated in it is constructed on the approach to the Vallur aqueduct.

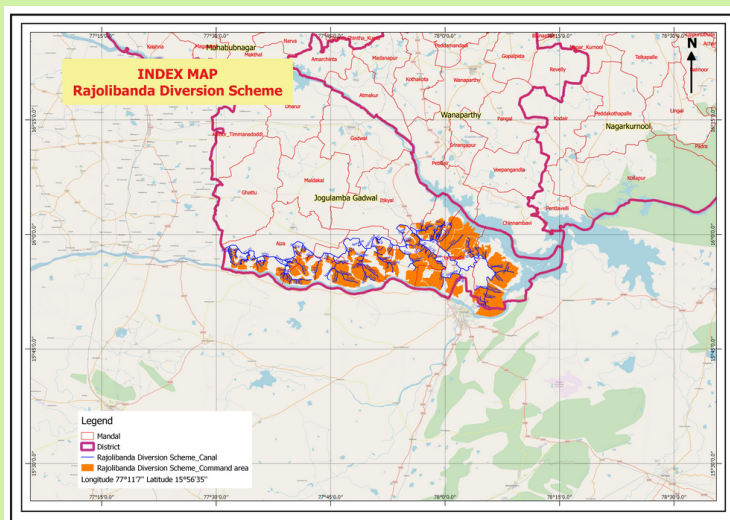
Combined Standing Wave Flume and Regulator

Measurements of the actual discharge carried by the canal during operation is a necessity in order to ensure that the designed discharges are realized and that the irrigation demands of the entire settled ayacut are fully met with. Without such an aid, the regulation of flow in the main Canal and the distributaries would be rendered extremely difficult. As such, a provision for measuring devices in the main canal and even in major distributaries at regular intervals is quite essential. To this end, standing wave flumes have been constructed in the main canal in 43 km, in 74 km, 95 km and in 109 km. The design adopted conforms to the type design evolved in the Hydraulic Research Station, Khadakvasla, by Sir C.C. Inglis.

Progress

The main canal together with all distributaries and sub-distributaries has been completed up to a length of 106 km and water has been made available for irrigation for 5,260 ha (13,000 ac) of abi paddy and 6,475 ha (16,000 ac) of irrigated dry area by the end

of June 1960. Up-to-date a total area of 3,738 ha (9,238 ac) has been developed in the abi season. Water was let out for irrigation for the first time in the canal system in July, 1958.



RAJOLIBUNDA DIVERSION SCHEME	
Features at a Glance	
RIVER	TUNGABHADRA
Catchment Area	61,427 sq km (23,717 sq ml)
Maximum Flood Discharge	21,237 cum per sec (75,000 cusecs)
ANICUT	
Length	820 m (2,690 ft)
Height Above Deepest Foundation	9.4 m (31 ft)
Length of Flood Banks	1,341 m (4,400 ft)
Head Sluice	5 Vents of 1.8 m x 2.1 m (6x7 ft)
Scouring Sluice	3 Vents of 1.8 x 2.1 m (6x7 ft)
CANAL	
Length of Canal	
(a) Lined portion	109 km (68 ml)
(b) Unlined portion	34 km (21 ml)
CARRYING CAPACITY	(a) 24 cum per sec at head in Karnataka (b) 21.8 cum per sec at the head of Andhra Pradesh & Telangana
BED WIDTH	
(a) Lined portion	Varying from 7 to 3.8 m (23 to 12.58 ft)
(b) Unlined portion	Varying from 9.70 to 4.2 m (32 to 14 ft)
FULL SUPPLY DEPTH	
(a) Lined portion	Varying from 2 to 1.7 m (7 to 5.75 ft)
(b) Unlined portion	Varying from 1.5 to 0.9 m (5 to 3 ft)
GROSS COMMAND (Andhra Pradesh & Telangana)	61,777 ha (1,52,654 ac)
NET CULTIVABLE COMMAND (Andhra Pradesh & Telangana)	47,616 ha (117,662 ac)
IRRIGATION (Andhra Pradesh)	
(a) Abi Paddy	13,961 ha (34,500 ac)
(b) Perennial	1,821 ha (4,500 ac)
(c) Irrigated Dry-Rabi	19,429 ha (48,000 ac)
Total	35,211 ha (87,000 ac)

(Source: Bhagirath 1961)



Central Water Commission

An attached office of Dept. of Water Resources, River Development and Ganga Rejuvenation, Ministry of Jal Shakti, Govt. of India

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Water Systems Engineering Directorate
Central Water Commission

2nd Floor(South), Sewa Bhawan, R K Puram, New Delhi-110 066
E-mail: media-cwc@gov.in